

*Under*  
What is claimed is:

1. A method of communicating with a device in a network communications system wherein the device is positioned at a physical location, said method comprising the step of identifying the physical location of the device so that the physical location can be used as an address of the device in the network communications system.

*Sgt*  
2. The method of claim 1, wherein the address of the device is a MAC address.

10 3. The method of claim 1, wherein the address of the device is an IP address.

15 4. The method of claim 1, further comprising the step of transmitting from the device the physical location and the address thereof to a controlling station so as to allow the controlling station to associate the physical location to the address for conveying signals to the device.

20 5. The method of claim 4, wherein the device has an intended function controlled by a software program, said method further comprising the step of loading the software program from the controlling station to the device after the physical location of the device is identified.

25 6. A method of communicating with a plurality of devices in a network communications system wherein each device is positioned at a physical location, said method comprising the step of converting a map of the physical locations of the devices into one or more address tables, each table including a plurality of network addresses for routing messages to the devices.

30 7. The method of claim 6, wherein a controlling station is used to associate the physical location to the network address of the respective device.

*substantially* 8. The method of claim 7, wherein each device comprises:

a programmable logic controller having a network address assigned thereto to communicate with the controlling station; and  
a physical site locator to identify the physical location of the respective device.

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9. The method of claim 7, wherein each device comprises:

an I/O device of a programmable logic controller system having a network address assigned thereto to communicate with the controlling station; and  
a physical site locator to identify the physical location of the respective device.

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10. The method of claim 6, wherein a software program is used to convert the map of the physical locations into the address tables.

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11. A network communications system comprising a plurality of devices positioned at a plurality of physical locations, said system comprising means for identifying the physical locations of the devices so that each of the physical locations can be used as an address of a respective device in order to allow the devices to communicate with each other in the network communications system.

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12. The network communications system of claim 11, further comprising means for converting a map of the physical locations into one or more address tables in order to route messages to the devices.

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13. The network communications system of claim 11, further comprising a controlling station to receive messages containing the physical locations and associate the physical locations to the addresses of the devices.

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14. The network communications system of claim 11, further comprising a local area network (LAN).

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15. The network communications system of claim 11, further comprising a wide area network (WAN).
16. The network communications system of claim 11, further comprising a wireless access communications system.
- 5 17. The network communications system of claim 11, wherein each device has a unique physical location.
- 10 18. The network communications system of claim 11, wherein a plurality of devices share one of the physical locations.
- 15 19. The network communications system of claim 18, wherein each device has a MAC address and means for transmitting the MAC address and the shared physical location in a RARP message to a controlling station in order to establish the address of the device in the network communications system.
- 20 20. The network communications system of claim 18, wherein each device has an IP address and means for transmitting the IP address and the shared physical location in a RARP message to a controlling station in order to establish the address of the device in the network communications system.
- 25 21. A device located at a physical site in a network communications system comprising means for identifying the physical site location so that the physical site location can be used as an address for communicating with other devices in the communication system.
- 30 22. The device of claim 21, wherein the identifying means comprises a GPS site locator.
23. The device of claim 21, wherein the identifying means comprises a TDOA device.

24. The device of claim 21, further comprising means for storing a program in order to carry out an intended function.

5 25. The device of claim 21, wherein the network communications system is used to perform a plurality of tasks, said device further comprising means to convey signals to an apparatus connected to the device for performing a task.

10 26. The device of claim 25, wherein the network communications system comprises a controlling station to oversee the tasks and wherein the signal conveying means comprises a programmable logic controller to communicate with the controlling station.

27. The device of claim 25, further comprising means for storing a software program to carry out the task to be performed by the apparatus.

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